UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/939,230	08/24/2001	Alan David Wickenden	018512-006610US	5203

20350 7590 06/28/2005

TOWNSEND AND TOWNSEND AND CREW, LLP
TWO EMBARCADERO CENTER
EIGHTH FLOOR
SAN FRANCISCO, CA 94111-3834

EXAMINER	
JONES, DWAYNE C	

ART UNIT	PAPER NUMBER
1614	

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/939,230	WICKENDEN ET AL.	
	Examiner	Art Unit	
	Dwayne C. Jones	1614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *the responses of2/24/5 and 4/4/5*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *45-82* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *45-82* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

S-8d

DETAILED ACTION

Status of Claims

1. Claims 45-82 are pending.

2. Claims 45-82 are elected and rejected.

Response to Arguments

3. Applicants' arguments and declaration filed February 24, 2005 and April 4, 2005 have been fully considered but they are not persuasive. Applicants present the following arguments. First, applicant alleges that a claim lacking enablement and is also obvious over the prior art is improper. Second, applicants submit that the presence of only one working example should never be the sole reason for rejecting claims as being broader than the alleged enabling disclosure. Third, applicants next discuss that the specification has disclosure of assays to help the artisan determine the ability of channel openers to treat anxiety. Fourth, applicants state that the specification sets forth a large number of structurally diverse compounds able to increase ion flow through KCNQ potassium channels. Fifth, applicants further argue that a working in vivo example is provided in the treatment of anxiety. Sixth, applicants submit that the reference of Gaster et al. does not teach all the claimed elements, namely, the use of KCNQ channel openers to treat anxiety, and fails to provide a basis for the skilled artisan to reasonably expect that the disclosed compounds are useful for treating anxiety by increasing ion flow through KCNQ potassium channels.

4. First, applicant alleges that a claim lacking enablement and is also obvious over the prior art is improper. The rejection of record is, however, proper because it did state that the instant specification **is** enabled for the compound of formula 7 but that the instant claims **are not** enabled for every and all compounds that are functionally described as being able "to increase ion flow through KCNQ potassium channels."

5. Second, applicants submit that the presence of only one working example should never be the sole reason for rejecting claims as being broader than the alleged enabling disclosure. But the fact remains that the instantly claimed subject matter does not fully support the breadth of the instant claims, especially with the functional phrase embracing all compounds that are broadly claimed as being able "to increase ion flow through KCNQ potassium channels" or even that the compounds of claims 58 or 70 because each of the variables in these claims can be any aryl group, any and all heteroaryl moieties under the sun, which can allegedly treat anxiety. Moreover, this allegation is not found persuasive because the elucidation of a biochemical mechanism with already known aryl and heteroaryl carbamoyl compounds are known in the art to treat the very same condition of anxiety. In addition, this reasoning is supported by the ruling *In re Swinehart*, 169 USPQ 226 where "a newly discovered property does not necessarily mean that the product is unobvious, since this property may be inherent in the prior art."

6. Third, applicants next discuss that the specification has disclosure of assays to help the artisan determine the ability of channel openers to treat anxiety. Applicants' are enabled identifying the compound of formula 7 but not for each and every

compound that is are functionally described as being able "to increase ion flow through KCNQ potassium channels" and to treat the condition of anxiety.

7. Fourth, applicants state that the specification sets forth a large number of structurally diverse compounds able to increase ion flow through KCNQ potassium channels. However, the instantly claimed subject matter does not fully support the breadth of the instant claims, especially with the functional phrase embracing all compounds that are broadly claimed as being able "to increase ion flow through KCNQ potassium channels" or even that the compounds of claims 58 or 70 because each of the variables in these claims can be any aryl group, any and all heteroaryl moieties under the sun, which can allegedly treat anxiety. In addition, applicants arguments are not commensurate in scope with inter alia independent claim 45 and dependent claims 58 and 70 because one skilled in the art of neuropharmacology is not provided with enablement, such as with sufficient guidance and predictability in the art and working examples for every compound that falls under the umbrella of the functional phrase embracing all compounds that are broadly claimed as being able "to increase ion flow through KCNQ potassium channel."

8. Fifth, applicants further argue that a working in vivo example is provided in the treatment of anxiety. This one example only provides one skilled in the art with a showing of how a rat reacts with a hot plate.

9. Sixth, applicants submit that the reference of Gaster et al. does not teach all the claimed elements, namely, the use of KCNQ channel openers to treat anxiety, and fails to provide a basis for the skilled artisan to reasonably expect that the disclosed

compounds are useful for treating anxiety by increasing ion flow through KCNQ potassium channels. In addition, applicants further enclose an expert declaration of Dr. Alan Wickenden, which explains why one of skill in the art would not view Gaster et al. as teaching or disclosing, either explicitly or inherently, the claimed methods.

10. The declaration under 37 CFR 1.132 filed April 4, 2005 is insufficient to overcome the rejection of claims 45-48, 54-59, 61-65, 70, 71, and 72 based upon 72 under 35 U.S.C. 103(a) as being unpatentable over Gaster et al. of U.S. Patent No. 6,235,758 as set forth in the last Office action because: foremost, because the instant compounds are functionally described as in claim 45, one having ordinary skill in the art would have been motivated to use a compound to treat anxiety. Once again, the amide-containing compounds of Gaster et al., which possess aryl groups and heteroaryl groups, as does the instant invention, are used in the treatment of the very same ailment, namely anxiety. Although applicants claim that a different biochemical process is manipulated, in particular KCNQ potassium channels vice 5-HT receptor antagonist activity, the very same condition of anxiety is treated with the administration of the structurally-related amide-containing compounds of Gaster et al., which possess both aryl and heteroaryl groups, as do the compounds of this application. Moreover, this allegation is not found persuasive because the elucidation of a biochemical mechanism with already known aryl and heteroaryl carbamoyl compounds are known in the art to treat the very same condition of anxiety. In addition, this reasoning is supported by the ruling *In re Swinehart*, 169 USPQ 226 where "a newly discovered property does not necessarily mean that the product is unobvious, since this property may be inherent in

the prior art." Also, the prior art reference of Gaster et al. specifically claim that the aryl and heteroaryl carbamoyl compounds are administered to treat anxiety, (see claims 11). Moreover, Gaster et al. teach that the instant aryl and heteroaryl carbamoyl compounds possess 5-HT_{2c} receptor antagonistic activity, which is further shown in the art to be useful in treating anxiety, (see column 1, lines 14-45 and column 47, lines 56-67). For these reasons and those of record, the instant claims are rendered obvious in view of Gaster et al. Furthermore, the declaration include(s) statements which amount to an affirmation that the claimed subject matter functions as it was intended to function. This is not relevant to the issue of nonobviousness of the claimed subject matter and provides no objective evidence thereof. See MPEP § 716. This is supported by the facts that the compounds of Gaster et al. teach that the instant aryl and heteroaryl carbamoyl compounds possess 5-HT_{2c} receptor antagonistic activity, which is further shown in the art to be useful in treating anxiety, (see column 1, lines 14-45 and column 47, lines 56-67).

Claim Rejections - 35 USC § 112

11. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

12. The rejection of claims 45-67 and 70-82 under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the compounds of aryl amide containing compounds of Figure 7 for the treatment of anxiety, does not reasonably provide enablement ford other compounds that are functionally described as being

known as a compound that increases ion flow through KCNQ potassium channels in a cell is maintained and repeated for both the above stated and reasons of record. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

The factors to be considered in determining whether a disclosure meets the enablement requirement of 35 U.S.C. 112, first paragraph, have been described in In re Wands, 8 USPQ2d 1400 (Fed. Cir. 1988). Among these factors are: (1) the nature of the invention; (2) the state of the prior art; (3) the relative skill of those in the art; (4) the predictability or unpredictability of the art; (5) the breadth of the claims; (6) the amount of direction or guidance presented; (7) the presence or absence of working examples; and (8) the quantity of experimentation necessary. When the above factors are weighed, it is the examiner's position that one skilled in the art could not practice the invention without undue experimentation.

(1) The nature of the invention:

The instant invention is directed to treating anxiety. The method comprises administering a compound that is functionally described as increasing ion flow through KCNQ potassium channels in a cell.

(2) The state of the prior art

The compounds of the inventions are functionally described as increasing ion flow through KCNQ potassium channels in a cell. However, the prior art does not teach that these functionally described as increasing ion flow through KCNQ potassium channels in a cell possess these types of properties, see Leppert et al. and Gaster et al.

(3) The relative skill of those in the art

The relative skill of those in the art of pharmaceuticals is high.

(4) The predictability or unpredictability of the art

The unpredictability of the pharmaceutical art is very high. In fact, the courts have made a distinction between mechanical elements functioning the same in different circumstances, yielding predictable results, but chemical and biological compounds often react unpredictably under different circumstances. Nationwide Chem. Corp. v. Wright, 458 F. Supp. 828, 839, 192 USPQ 95, 105(M.D. Fla. 1976); Aff'd 584 F.2d 714, 200 USPQ 257 (5th Cir. 1978); In re Fischer, 427 F.2d 833, 839, 166 USPQ 10, 24 (CCPA 1970). Thus, the physiological activity of a chemical or biological compound is considered to be an unpredictable art. For example, in Ex Parte Sudilovsky, the Court held that Appellant's invention directed to a method for preventing or treating a disease known as tardive dyskinesia using an angiotensin converting enzyme inhibitor involved unpredictable art because it concerned the pharmaceutical activity of the compound. 21 USPQ2d 1702, 1704-5 (BDAI 1991); In re Fisher, 427 F.2d 1557, 1562, 29 USPQ, 22 (holding that the physiological activity of compositions of adrenocorticotropic hormones

was unpredictable art; In re Wright, 999 F.2d 1557, 1562, 29 USPQ d, 1570, 1513-14 (Fed. Cir. 1993) (holding that the physiological activity of RNA viruses was unpredictable art); Ex Parte Hitzeman, 9 USPQ2d 1821, 1823 (BDAI 1987); Ex Parte Singh, 17 USPQ2d 1714, 1715, 1716 (BPAI 1990). Likewise, the physiological or pharmaceutical activity of a compound that is functionally described as increasing ion flow through KCNQ potassium channels in a cell, including carbamoyl-containing compounds that have aryl as well as heteroaryl moieties prior to filing of the instant invention was an unpredictable art.

(5) The breadth of the claims

The instant claims are very broad. For instance, claim 45 is directed to the plethora of compounds that are embraced by the functional description increasing ion flow through KCNQ potassium channels in a cell. The breadth of claims was a factor in Amgen v. Chugai Pharm. Co., 927 F.2d 1200, 18 USPQ2d (Fed. Cir.),cert. Denied, 502 U.S. 856 (1991). In the Amgen case, the patent claims were directed to DNA sequences that encoded amino acid sequences. Because a very small change in the amino acid sequence of a protein can result in a very large change in the structure-function activity of a protein and because the laws of protein folding are in such a primitive state, predicting protein structure (and hence, activity) while knowing only the sequence of the protein is akin to predicting the weather for a date in the future.

(6) The amount of direction or guidance presented

The amount of guidance or direction needed to enable the invention is inversely related to the degree of predictability in the art. In re Fisher, 839, 166 USPQ 24. Thus, although a single embodiment may provide broad enablement in cases involving predictable factors, such as mechanical or electrical elements, in cases involving unpredictable factors, such as most chemical reactions and physiological activity, more teaching or guidance is required. In re Fischer, 427 F.2d 839, 166 USPQ 24; Ex Parte Hitzeman, 9 USPQ 2d 1823. For example, the Federal Circuit determined that, given the unpredictability of the physiological activity of RNA viruses, a specification requires more than a general description and a single embodiment to provide an enabling disclosure for a method of protecting an organism against RNA viruses. In re Wright, 999 F.2d 1562-63, 27 USPQ2d 1575. In the instant case, given the unpredictability of the physiological or pharmaceutical activity of compounds that are embraced by the functional description increasing ion flow through KCNQ potassium channels in a cell to be effective in treating anxiety is insufficient for enablement. The specification provides no guidance, in the way of enablement for compounds that are embraced by the functional description of increasing ion flow through KCNQ potassium channels in a cell other than the compounds of aryl amide containing compounds of Figure 7 for the treatment of anxiety. In re Fisher, 427 F.2d 833, 166 USPQ 18 (CCPA 1970) (contrasting mechanical and electrical elements with chemical reactions and physiological activity). See also In re Wright, 999 F.2d 1557, 27 USPQ2d 1510 (Fed. Cir. 1993); In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). This is because it is not obvious from the disclosure of one species, what other species will

work. In re Dreshfield, 110 F.2d 235, 45 USPQ 36 (CCPA 1940), gives this general rule: "It is well settled that in cases involving chemicals and chemical compounds, which differ radically in their properties it must appear in an applicant's specification either by the enumeration of a sufficient number of the members of a group or by other appropriate language, that the chemicals or chemical combinations included in the claims are capable of accomplishing the desired result." The article "Broader than the Disclosure in Chemical Cases," 31 J.P.O.S. 5, by Samuel S. Levin covers this subject in detail. A disclosure should contain representative examples, which provide reasonable assurance to one skilled in the art that the compounds that fall within the scope of a claim will possess the alleged activity. See In re Riat et al. (CCPA 1964) 327 F2d 685, 140 USPQ 471; In re Barr et al. (CCPA 1971) 444 F 2d 349, 151 USPQ 724.

(7) The presence or absence of working examples

As stated above, the specification discloses compounds that are embraced by the functional description increasing ion flow through KCNQ potassium channels in a cell that have are used to treat anxiety. However, the instant specification only has enablement for the compounds of aryl amide containing compounds of Figure 7 for the treatment of anxiety.

(8) The quantity of experimentation necessary

The quantity of experimentation needed to be performed by one skilled in the art is yet another factor involved in determining whether "undue experimentation" is

required to make and use the instant invention. "'The test is not merely quantitative, since a considerable amount of experimentation is permissible, if it is merely routine, or if the specification in question provides a reasonable amount of guidance with respect to the direction in which the experimentation should proceed.'" In re Wands, 858 F.2d 737, 8 USPQ2d 1404 (citing In re Angstadt, 537 F.2d 489, 502-04, 190 USPQ 214, 218 (CCPA 1976)). For these reasons, one of ordinary skill in the art would be burdened with undue "painstaking experimentation study" to determine all of the compounds that are embraced by the functional description increasing ion flow through KCNQ potassium channels in a cell that would be enabled in this specification.

13. The rejections of claims 51, 52, 59, 60, 63, and 77-82 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention are withdrawn.

Claim Rejections - 35 USC § 103

14. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

15. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

16. The rejection of claims 45-48, 54-59, 61-65, 70, 71, and 72 under 35 U.S.C. 103(a) as being unpatentable over Gaster et al. of U.S. Patent No. 6,235,758 is maintained for both the above stated and reasons of record. Gaster et al. teach of aryl carbamoyl compounds that are used to treat anxiety, (see column 1 and compound Nos. 1-177). Gaster et al. do not specifically teach of KNCQ potassium channels. Gaster et al. also teach of pharmaceutical modes of administration and dosages, (see column 9, lines 28-46 and column 10, lines 8-20). It is further noted that the courts have held that, "a newly discovered property does not necessarily mean that the product is unobvious, since this property may be inherent in the prior art.", *In re Swinehart*, 169 USPQ 226. In addition, it seems that applicants' invention have further elucidated the biochemical mechanism of opening the KNCQ potassium channels with the aryl carbamoyl compounds that are used to treat anxiety. Accordingly, it would have been obvious to one having ordinary skill in the art to treat the very same ailment of anxiety as is instantly claimed because applicants' invention are simply claiming a biochemical mechanistic step that is already inherent with the administration of the aryl carbamoyl compounds of the prior art reference of Gaster et al. The skilled artisan would have been motivated to select the compounds of Gaster et al. to treat the very same ailment with the expectation that the prior art compounds would inherently possess the same biochemical properties and effects, namely opening of the KNCQ potassium channel.

Obviousness-type Double Patenting

17. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

18. The rejection of claims 45-57 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 46-67 of McNaughton-Smith et al. of U.S. Patent No. 6,593,349 is maintained and repeated. Although the conflicting claims are not identical, they are not patentably distinct from each other because McNaughton-Smith et al. teach of the KCNQ potassium channel opener compounds. In addition, McNaughton-Smith et al. disclose that these KCNQ potassium channel opener compounds can be administered orally or by injection in various amounts, (see columns 19-21). McNaughton-Smith et al. also disclose that the KCNQ potassium channels may include homomultimers and heteromultimers of inter alia KCNQ2 and KCNQ3, (see column 22, lines 40-58).

19. The rejection of claims 45-82 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 46-67 of U.S. Patent No. 6,235,758 is maintained and repeated. Although the conflicting claims are

not identical, they are not patentably distinct from each other because McNaughton-Smith et al. teach of the KCNQ potassium channel opener compounds. In addition, McNaughton-Smith et al. disclose that these KCNQ potassium channel opener compounds can be administered orally or by injection in various amounts, (see columns 19-21). McNaughton-Smith et al. also disclose that the KCNQ potassium channels may include homomultimers and heteromultimers of inter alia KCNQ2 and KCNQ3, (see column 22, lines 40-58). Gaster et al. do not specifically teach of KNCQ potassium channels. Gaster et al. also teach of pharmaceutical modes of administration and dosages, (see column 9, lines 28-46 and column 10, lines 8-20). In addition, Gaster et al. also teach of the administration of carbamoyl compounds for the treatment of anxiety. Clearly, it would have been obvious to the skilled artisan to utilize the carbamoyl compounds of Gaster et al. with the expectation of opening KNCQ potassium channels because both of these prior art references teach of treating anxiety with carbamoyl compounds, as is instantly claimed.

20. The rejection of claims 45-82 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 22 of U.S. Patent No. 6,495,550 is maintained and repeated. Although the conflicting claims are not identical, they are not patentably distinct from each other because both the instant invention and U.S. Patent No. 6,495,550 teach of treating anxiety with the administration of aryl and heteroaryl carbamoyl-containing compounds that modulate a voltage dependent potassium channel.

21. The rejection of claims 45-82 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 30-59 of U.S. Patent No. 6,737,422 is withdrawn.

Conclusion

22. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to D. C. Jones whose telephone number is (571) 272-0578. The examiner can normally be reached on Mondays, Tuesdays, Thursday, and Fridays from 8:30 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Low, may be reached at (571) 272-0951. The official fax No. for correspondence is (703) 872-9306.

Also, please note that U.S. patents and U.S. patent application publications are no longer supplied with Office actions. Accordingly, the cited U.S. patents and patent application publications are available for download via the Office's PAIR, see http://pair-direct.uspto.gov. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site (www.uspto.gov), from the Office of Public Records and from commercial sources.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications may be obtained from Private PAIR only. For more information about PAIR system, see http://pair-direct.uspto.gov Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 1-866-217-9197 (toll free).

DWAYNE JONES
PRIMARY EXAMINER
Tech. Ctr. 1614
June 23, 2005